DOCUMENT RESUME

ED 243 303 FL 014 307

AUTHOR Perkins, Kyle; El-Ezaby, Yehia
TITLE Evidence of Arabic Interference in Item Performance Data from the ALIGU Test.
PUB DATE Mar 84
NOTE 20p.; Paper presented at the Annual Meeting of Teachers of English to Speakers of Other Languages (18th, Houston, TX, March 6-11, 1984).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Adults; *Arabic; *English (Second Language); Error Patterns; *Grammar; *Interference (Language); Second Language Instruction; *Second Language Learning; Standardized Tests

ABSTRACT

Item responses by adult Egyptian native speakers of Arabic on the ALIGU test battery were analyzed statistically to determine which items deviated significantly from the expected frequency of correct responses, and which item distractors were chosen most frequently. Thirty-two of 100 grammar responses showed significant incorrect responses, and on each, students chose a particular distractor more often than could be expected by chance, initially suggesting native language interference. Of these 32 items, only 8 occurred frequently in the lowest proficiency group, and 7 occurred only in the highest proficiency group. Seventeen appeared only in the middle proficiency group's responses. Clear evidence of Arabic interference appeared in 23 of the 32 items. Another four showed some possible interference, and five showed none. Of those five, two or three were among the items with which even the most proficient speakers had difficulty, and all showed errors characterized as developmental and not interference-related. The results suggest that the less proficient subjects relied more on their native language than the more proficient subjects. The test validates earlier research, and identifies certain grammatical structures that should be taught with a "remedial approach" using review, contrast, and re-review techniques. (MSE)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED243303

EVIDENCE OF ARABIC INTERFERENCE IN ITEM PERFORMANCE DATA FROM THE ALIGU TEST

Kyle Perkins
Southern Illinois University
and
Yehia El-Ezaby
The American University in Cairo

Abstract

Item responses from the ALIGU battery by adult Egyptian native-speakers were submitted to a chi-square goodness-of-fit analysis to determine which items deviated significantly from expected frequency of correct responses. Thirty-two items from the grammar test exhibited significant deviation. Of the 32 items, 23 showed evidence of native language (Arabic) interference. The results showed that the less proficient subjects relied more heavily on their native language than the more proficient subjects. Consequently, this research validates Taylor's (1975b) research with a different sample and different instrumentation. This investigation also identifies certain grammatical structures which should be handled with Taylor's (1975a) "remedial approach" for Arab students.

FL014307

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Kyle Perkins
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
■ This document has been reproduced as received from the person or organization originating it.
□ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

INTRODUCTION

When a test writer constructs an English as a foreign language test that will be administered to students who come from disparate language backgrounds and who have studied different curricula and syllabi, the test writer strives to preclude bias by sampling a true cross section of the language. But a question arises as to whether such a test provides some takers with an advantage due to similarities between the target language and the native language while it provides other takers with an unfair disadvantage due to radical differences between the target language and the native language. Harris (1969:11-12) responded to the issue of a test's discriminating against students from disparate backgrounds:

> If a test of English as a second language accurately samples a true cross section of the language, we need not be concerned that some students will find some problems easy that other students find difficult. In this regard, the test simply reflects the linguistic facts of life--that is, it mirrors the language-learning situation. The English vocabulary, for example, is in large part Latin-based, and therefore students from Romance-language countries may find ESL vocabulary tests easier than will, say, students whose other language is Arabic or Japanese. But unless we are prepared to say that it is "unfair" to expect the latter students to attain the same level of English proficiency as the former, we should not say that administering

the same tests to Spanish and French students that we give to Arabic and Japanese speakers is unfair.

The previous discussion suggests two different research programs which could be conducted to detect test bias. One could examine the responses of subjects from different language backgrounds to determine whether incorrect response patterns for a particular test vary according to linguistic contrasts of native language (Alderman and Holland 1981). One could also identify items in a test for which particular distractors were chosen more often than by chance by subjects having the same native language and do a contrastive analysis of the items to determine if the response pattern was due to native language (NL) interference.

The purpose of the investigation reported in this paper was to determine if the NL background of a sample of Arabic subjects was responsible for their choosing certain distractors more often by chance on a standardized English language proficiency test.

Method

Sample. This research was conducted at the American University in Cairo where the first author recently took sabbatical leave. One hundred six answer sheets for the ALIGU English Usage Test, Form P were randomly selected from the AUC test archives. Eighty answer sheets for the ALIGU Listening Test, Form LT-D and 47 answer sheets for the ALIGU Vocabulary and Reading Test, Form D were also randomly selected. The grammar test contains 100 items; the listening test, 40 items; and the vocabulary/reading test, 60 items. All subjects were native speakers of Arabic and had studied English at AUC's English Language Institute.

Analysis. A chi-square test of goodness-of-fit was used to determine whether the observed frequency distribution of each distractor for each item departed significantly from the expected frequency distribution. Distractors with statistically significant departures from the expected frequency were subjected to a contrastive analysis of modern standard Arabic and English to ascertain if indeed interference from Arabic provided the best explanation for the choice of distractor, and, if so, what type(s) of interference phenomena was (were) involved. Prator's (1967) six categories were used for classification purposes: transfer, coalescence, underdifferentiation, reinterpretation, overdifferentiation, and split. The terms are attributed to Prator in Brown (1980).

Before trying to assess the role of interference in the performance of FL learners on multiple-choice tests, it may be useful to reflect on the following two questions:

1. Why do some learners miss the correct answer?
2. Why do they choose a certain distractor in preference to all others?

The answer to the first question is fairly straightforward: they miss it because they do not know it is the correct answer, i.e., it represents an incomplete mastery in their FL competence and should be considered a feature of their "interlanguage" at that point (Selinker 1972).

The answer to the second question is much more difficult, as the choice of a particular distractor, whether because it is thought to be or merely hoped to be the correct answer, represents, we must assume,

the outcome of the interaction of several competing factors. These factors, we claim, include at least the following:

1. The degree of familiarity with the correct item/structure.
2. The pressure of a linguistic feature or structure from the NL.
3. The learner's general level of proficiency in the FL.

Concerning the first factor, we must realize that the fact that a FL learner did not identify the correct answer does not necessarily mean that s/he lacked any familiarity with the linguistic structure involved. That is probably why distractors that are more similar to the correct answer get chosen more often (especially by intermediate or advanced learners) than those that are less. What is more interesting is that this sometimes happens even when another distractor would have been the more expected choice under NL interference pressure. For example, in the following item (from the present study)

Why (you not) (you don't) (don't you) write to me?

the subjects chose why you don't write...? more frequently than why you not write...? although the latter is closer to the equivalent Arabic structure, while the former has the auxiliary do which has no equivalent in Arabic. In this case, one should at least hypothesize that familiarity with some aspect of the correct structure played a greater role in the choice of the distractor than interference pressure from Arabic. Still, the correct answer why don't you was not chosen presumably because subject/auxiliary inversion, which also is not found in Arabic, was not yet part of the learner's English language competence.

However, pressure from a certain NL structure (the second factor)

can be too strong to resist. For example, in another item from the same study,

- (The patience) (A patience) (Patience) is an important quality in a teacher.

the patience was the frequently chosen distractor, obviously under the influence of the ubiquitous definite article in Arabic. In fact, items such as this one become "interference traps" for subjects with a similar NL background.

The third factor mentioned above, namely the learner's general level of proficiency in the FL, determines the degree of reliance on one's NL for solutions. So, an Arabic speaker with a low level of proficiency in English is more likely to fall back on his/her knowledge of Arabic, which in this case usually constitutes the bulk of his/her previous linguistic experience than would another Arabic speaker with a relatively high level of English proficiency. This observation has been made in other important second language acquisition studies. d'Anglejan and Tucker (1975) and Cooper, Olshtain, Tucker and Waterbury (1979) reported differences in processing strategies depending on their subjects' level of proficiency. Taylor (1975b) found that elementary level ESL students tended to rely more heavily on transfer and that intermediate level subjects tended to rely on overgeneralization. Taylor claimed that when learners manifest language transfer, they have relied on their native language competence (prior learning) to facilitate new learning. When they manifest overgeneralization, they have utilized the more recently acquired bits of target language

competence (prior learning) to facilitate new learning. As a subject's proficiency in the target language increases, his/her reliance on the native language and on transfer strategy decreases and depends more regularly on target language competence and on overgeneralization strategy. Obviously, this factor is closely related to the preceding one (the pressure of a particular NL feature), and in fact the patience distractor cited above was one of eight errors frequently made only by the lowest proficiency group in this study. It is also worth noting that the other seven errors characteristic of this group were found to be mostly due to direct NL interference.

Results and Discussion

The results of the chi-square test of goodness-of-fit indicated significant deviation from expected frequency of correct responses in 32 out of 100 multiple-choice items of the English Usage subtest of the ALIGU battery. On each of those 32 items, the subjects chose a distractor more often than by chance which suggested that, among other possibilities, the native (i.e., Arabic) language background of the subjects probably had something to do with this choice pattern.

Of the 32 items (see Appendix A) with deviations from expected frequencies of correct responses, the following eight items appeared only in the responses of the lowest proficiency group (score level 31-40): 23,26,49,66,67,76,83,85. The following seven items were the only ones that appeared in the responses of the high proficiency groups (score level 61-90) with the first three appearing only at score level 71-90: 46,94,97,12,54,59,100. The following 17 items appeared only

in the responses of the imtermediate groups (score levels 41-60). They did not appear in the responses of the lower or higher groups: 21,44,52, 56,74,75,87,89,93,28,37,40,45,48,51,69,72.

Of the 32 items, 23 items showed evidence of NL Interference. These are: 23,26,49,66,67,76,83,85,97,12,54,59,21,44,52,56,75,93,37,48,51, 69,72. Five items showed doubtful evidence: 94,74,28,45. Five items had no discernible evidence of NL interference: 46,100,87,89,40.

To determine the possible role of Arabic interference in each of the 32 items, the Arabic equivalent structure(s) were constructed for each item, and then contrasted with the English chosen distractor in terms of word order, syntactic operations and lexical - contextual match. When compelling evidence of interference from Arabic was found, the subject's choice of distractor was considered to be influenced by NL interference, and the test item was considered interference-prone for Arabic speaker subjects, i.e., potentially biased against such population. The term "compelling" is admittedly a subjective one, but this should not detract from its validity, since it is used here to describe not just prima facie evidence, but evidence that could also be verified by contrastive analysis within, of course, the limitations of our present knowledge of language structure and language acquisition. Sometimes the evidence seemed compelling in spite of (or perhaps because of) the existence of other evidence in the same distractor chosen that the subject was not entirely unfamiliar with certain elements of the correct answer--yet NL interference seemed to be more powerful. (See, for example, the discussion of item 21: why you don't write to me. Furthermore, interference evidence found in this study were corroborated

by the substantial combined experience of the authors with Arabic speaker teachers and learners of English.

The five items that showed no evidence of Arabic interference had the following characteristics:

1. Two (and probably three) of them were among the seven items with which the high proficiency group still had difficulty. This seems to support the widely accepted notion that the more proficient the FL learners, the less reliant s/he is on his NL for solutions.
2. The frequently chosen distractors in these five items reflect characteristics of errors which are described by Richards (1974) as "developmental" or "intralingual" error rather than "interference" or "interlingual" ones.

As for the four doubtful items, the evidence of interference from Arabic is weak at best and open to too much speculation. On the other hand, there is stronger evidence that the errors here are developmental and would probably be made equally frequently by native speakers of other languages at a comparable level of English proficiency.

Now, for the clear 23 interference items. Following is a summary of the evidence under the various interference categories:

1. Transfer (12 items):

   #23. The Arabic nominalizer Panna (=that) usually follows the verb for see.

   #26. In Arabic the word for patience in the subject position must be preceded by the definite article.

   #76. Word order; literal translation.

#83. Arabic nominalizer Pan (=to) normally follows the verb for worry.

#85. Literal translation of Arabic where only the nominal form of the verb follows the negator in this context.

#97. Same as #83.

#12. Arabic comparative form ʔaħsan = more + better.

#59. Same as #83, 97.

#75. Lexical equivalence pressure: must to = yagib ʔan.

#93. Superlative form in Arabic is usually followed by singular noun (Pagmal qitʕat Paθaaθ).

#48. Word order. No inversion in Arabic interrogatives.

#69. Same as #83, 97, 59.

II. Split (6 items)

#49. Arabic munðu (=since, for) can be followed by either a specific time or a time period.

#67. In Arabic all embedded structures retain their "independent" form almost intact, whereas in English embedded questions are re-inverted.

#54. Same as #67.

#56. Same as #67, 54.

#51. The relative pronoun is the same for human and non-human nouns.

#72. See #49.

III. Overdifferentiation (5 items):

#66. Arabic has no BE form in this position, nor does it have a sequence of tense rule.

#21. Arabic has no interrogative inversion rule.

#44. Arabic has no special auxiliary form (equivalent to would) for request/offer.

#52. No Arabic equivalent of get along.
Closese approximation is the verb for do.

#37. Same as #44.

There was no clear evidence of interference from Arabic in the listening test items. A common response pattern is the "echo" response where the distractor too frequently chosen includes a word that occurred in the stem (especially toward the end), as evidenced by responses to items 12,18,19,20,28,33 and 37, accounting for about 36% of the responses in question (7 out of 19). Items 18,19, and 20 are especially interesting since in each case two distractors were chosen more often than by chance and both were "echo" responses.

#12. Should I have Bill phone you when he gets home? Distractor chosen: He'll get there at nine.

#18. Do you think you lost your watch at the baseball game: Distractors chosen: No, I don't think I will./ Yes we lost the game.

#19. Would you mind calling John about ten o'clock? Distractors chosen: No, I didn't call him./ No, I didn't mind.

#20. Does George wear a tie when he goes to school? Distractors chosen: Yes, he goes every day./ He goes at eight-thirty.

#28. If Jack doesn't come soon, we'll have to go without him. Distractor chosen: We can't go without Jack.

#33. John invited half a dozen guests, but two were unable to come. Distractor chosen: John had two guests.

#37. Tom still hasn't learned whether he passed or failed the test. Distractor chosen: Tom knows that he failed the test.

There was no evidence of interference or anything else special in the responses on the V&R which could explain the choice of the particular distractor. The response patterns indicated just a lack of understanding of certain parts of the reading passages, and unfamiliarity with vocabulary or idiom. It was hard even to guess why the particular distractors that were frequently chosen were chosen in preference to other distractors.

We come to the following conclusions in this investigation. First, the ALIGU grammar test is not unduly biased against native Arabic speakers because only 23% of the items showed evidence of NL interference. Certainly the entire ALIGU battery taken as a whole is not biased for the sample studied in this investigation with (23/200) = 11.50% of the items showing evidence of NL interference. Had this investigation used answer sheets from a native Spanish-speaking sample, the percent might have been even lower, but, as Harris (1969) pointed out, these are the linguistic facts of life.

Second, we believe that our results validate the research of Taylor (1975b), Cooper et al. (1979), and d'Anglejan and Tucker (1975) in that our study suggests that a subject's attained proficiency in the target language determines the degree of reliance on the NL for solutions and TL processing.

Third, although this study focussed on the use of goodness-of-fit to detect biased items, its results have clear pedagogical implications for ESL/EFL teachers who have Arabic students in their classes. Certain grammatical structures will entail very systematic instruction at the elementary and intermediate levels. If these structures continue to cause persistent difficulties for Arabic students at the advanced levels of instruction, we recommend Taylor's (1975a) "remedial approach" which entails review, contrast, and re-review. The grammatical structures identified in this study which should merit especially systematic instruction for Arabic students include the present participle used as an objective complement, the as definite article, word order in main clause with so, inseparable two-word verb with a gerund phrase object, negative infinitive clause as direct object of main clause, be as uninflected lexical verb following a modal, comparative degree of adverb, has to versus must, plural form of a count noun followed by a mass noun as the object of a preposition, wh-word-aux-subject interrogative word order in an embedded wh-question, the modal might not followed by the to infinitive marker, for marks a duration of time; since marks a point in time, wh-word-subject-verb word order in embedded wh-questions, which and that as relative pronouns for human antecedents and who for non-human antecedents, tense sequence in embedded clauses, and two word verbs like get along.

Since AUC's ELI is a very rich, living laboratory, we can identify some potentially fruitful directions for future research. One study would involve a similar approach taken in this investigation using

samples of Arabic students who have studied at the French, German, and English language schools in Cairo to determine the potential interference effects that a second language may have on the acquisition of a third language, i.e., the effects of Arabic and German (or French) on English. A second project might be a longitudinal study of the (hopefully) decreasing reliance on the NL by subjects as they move along the continuum from monolingual Arabic to balanced bilingual Arabic/English. A third study might involve the analysis of writing work samples to determine whether NL interference manifests itself in composition.

APPENDIX A

List of all 32 Items (from Usage Test P)

With Deviations from Expected Frequencies of

Correct Responses

Item #	Item	Type
23	Yesterday we saw Mr. Cook (to crossing the street) (crossing the street) (that he crossed the street)	Transfer
26	(The patience) (A patience) (Patience) is an important quality in a teacher.	Transfer
49	I haven't seen Philip (for a long time) (a long time) (since a long time).	Split
66	Did you say everybody (are) (were) (was) ready?	Overdiff.
67	They don't know (when the show begins) (when does the show begin) (when begins the show).	Split
76	If she can do it, (so I can) (so can I) (I can so).	Transfer
83	She was worried (about taking) (to take) (of taking) the examination.	Transfer
85	The teacher asked us (not to smoke) (not smoking) (no to smoke) during the classes.	Transfer

46	Does everyone in the English class (has) (had) (have) a dictionary? (A) B C	?
94	This book (is costing) (is worth) (is value) five dollars. (A) B C	?/Transfer
97	We'd better not (to be) (been) (be) away when George arrives. (A) B C	Transfer
12	After it was repaired, the car ran (much gooder) (more better) (much better). A (B) C	Split
54	I don't know (when was going John) (when did John go) (when John went) to New York. A (B) C	Split
59	Did you know that the library (not may) (may not) (may not to) be open tomorrow? A B (C)	Transfer
100	This kind of work is very (tired) (tiring) (tire). (A) B C	?
21	Why (you not) (you don't) (don't you) write to her? A (B) C	Overdiff.
44	(Will you) (Would you) (Do you) like to go to the movies with us tonight? A B (C)	Overdiff.
52	How are you (getting) (doing) (making) along with your courses? A (B) C	Overdiff.
56	No one is sure why (Mary went) (did Mary go) (went Mary) home early. A (B) C	Split
74.	Grace has (made) (done) (put) reservations for us at the new restaurant tonight. A (B) C	?/Overdiff.

75	The doctor said that Mike (has) (must) (should) to quit smoking. (A) (B) (C)	Transfer
87	How long ago did you (have your kitchen painted) (have painted your kitchen) (had your kitchen painted)? (A) (B) (C)	?
89	My fingernails need (to cut) (cutting) (that they be cut). (A) (B) (C)	?
93	This is one of the most beautiful (pieces of furniture) (piece of furniture) (pieces of furniture) I've ever seen. (A) (B) (C)	Transfer
28	My friend wants to (lend) (borrow) (give) some money from you. (A) (B) (C)	?/Split
37	(We'd) (We'll) (We) like to speak with Mr. Jones, please. (A) (B) (C)	Overdiff.
40	(Does he have) (Have he) (Has he) been in South America? (A) (B) (C)	?
45	Who is (in charge of) (in charge) (charge of) that program? (A) (B) (C)	?/2-step transf.
48	(How much cost these chairs?) (How much did these chairs cost?) (How much were these chairs costing?) (A) (B) (C)	Transfer
51	Mr. Baker is the man (which) (what) (that) sold us our house. (A) (B) (C)	Split
69	Mary (might) (mights) (might to) arrive soon. (A) (B) (C)	Transfer
72	I haven't seen him (for)(since) (during) a year. (A) (B) (C)	Split

REFERENCES

Alderman, Donald L., and Paul W. Holland. 1981. Item performance across native language groups on the Test of English as a Foreign Language (TOEFL Research Report 9). Princeton, NJ: Educational Testing Service.

d'Anglejan, Allison, and G. Richard Tucker. 1975. The acquisition of complex English structures by adult learners. Language Learning 25(2):281-293.

Brown, H. Douglas. 1980. Principles of language learning and teaching. Englewood Cliffs, NJ: Prentice-Hall, Inc.

Cooper, Robert L., Elite Olshtain, G. Richard Tucker, and Marianne Waterbury. 1979. The acquisition of complex English structures by adult native speakers of Arabic and Hebrew. Language Learning 29(2):255-275.

Harris, David P. 1969. Testing English as a second language. New York: McGraw-Hill Book Co.

Prator, Clifford H. 1967. Hierarchy of difficulty. Unpublished classroom lecture, U.C.L.A. Cited in Brown (1980).

Richards, Jack C. (Ed.). 1974. Error analysis. Perspectives on second language acquisition. London: Longman Group Limited.

Selinker, Larry. 1972. Interlanguage. International Review of Applied Linguistics 19(3):209-231.

Taylor, Barry P. 1975a. Adult language learning strategies and their pedagogical implications. TESOL Quarterly 9(4):391-399.

Taylor, Barry P. 1975b. The use of overgeneralization and transfer learning strategies by elementary and intermediate students of ESL. Language Learning 25(1):73-107.